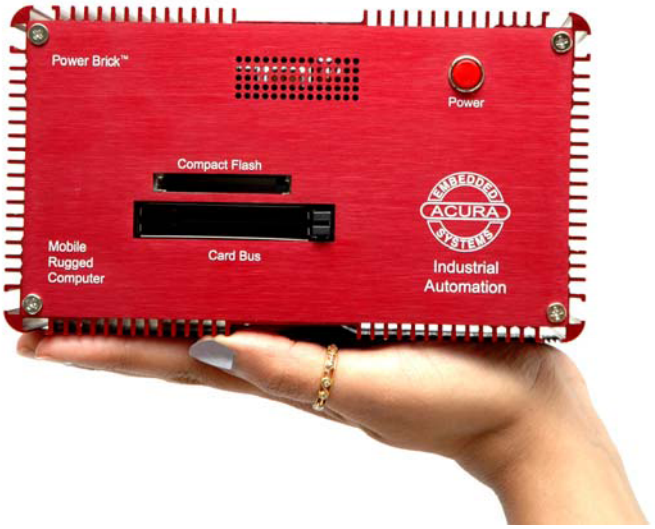
PowerBrick-CV

User's Manual

Edition 2.0



Small footprint rugged Pentium-M

With Digital Video Recorder

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Preface

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Version 1.0

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Table of Content

1. OVERVIEW 1

2. INSTALLATION 2

2.1. CONTENTS OF THE COMPUTER BOX 2

2.2. CONNECTING CABLES AND GETTING STARTED 2

2.3. MOUNTING IN YOUR VEHICLE OR FINAL LOCATION 4

2.4. MOUNTING TOOLS 4

2.5. INSTALLATION 4

3. TECHNICAL INFORMATION.....5

3.1. BIOS SETUP.....5

3.2. OPERATING SYSTEMS.....6

3.3. OPERATING SYSTEM RESTORE PROCESS 6

3.4. WINDOWS XP EMBEDDED, PROFESSIONAL.....6

3.5. APPLICATION SOFTWARE.....6

3.6. SPECIFICATIONS FOR POWERBRICK-CV.....7

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1. Overview

The PowerBrick-CV is a combined rugged industrial high performance computer and a 4-channel digital video recorder in the same chassis. The system is designed to work in industrial and marine mobile environments, where reliability and endurance with respect to vibration, shock, humidity and temperature are of essence. The PowerBrick-CV system architecture is modular which allows for easy upgrading and expanding.

For public safety providers, the PowerBrick-CV system offers outstanding computing power while at the same time acting as a tool for incident/evidentiary documentation, surveillance and training. Typical areas of application include:

- Mobile surveillance, border patrolling, marine patrolling
- Law enforcement vessels and vehicles
- Patrol boats and vehicles
- Fire emergency vehicles
- Public transportation security
- Seaport surveillance/security

The main features are:

- Pentium-M processor
- Intel 855
- 4-channel camera input, 120 fps
- Multi-screen video monitoring, allows simultaneous play-back of all channels
- 2.5" hard drive
- 512 MB DDR RAM
- On-board 10/100 LAN, USB 2.0
- Standard audio input channel (1)
- 2 x PCMCIA card bus slot
- 1 x compact Flash –II slot
- GPS/AVL options
- 6-40 Volt DC input
- Dimensions: 7.60" x 4.35" x 8.15" (W x L x H)

For installation, mounting and cable connections, please see the next Section.

Technical information is available in Section **Error! Reference source not found.**.

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2. Installation

2.1 Contents of the Computer Box

In the box you will find the following items: PowerBrick-CV computer, power plug, mounting with rubber suspension, bolts and four (4) nuts.

If you have purchased Windows operating system with your computer, the CD should be included. Keep it in a safe place.

Please see your separate monitor packaging for installation and other information for the touch screen monitor.

Do not turn power on until you have read the next section and all cables are connected.

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2.2 Connecting Cables and Getting Started

In order to get familiar with your system before mounting it at your vehicle (or final location), we suggest you look at the connections on both ends of the computer such as shown in Figs. 2.2 and 2.3, connect up the unit, and place it into operation.

Figure2.1: Front side of PowerBrick-CV.

Connect all applicable cables such as:

- Keyboard
- Mouse
- Monitor
- Power supply cable

Optional device cables or units that you provide yourself could include the following:

- USB cable
- Speaker and microphone cables
- RJ45 Ethernet TP cable
- Parallel port printer-cable
- Serial port cable

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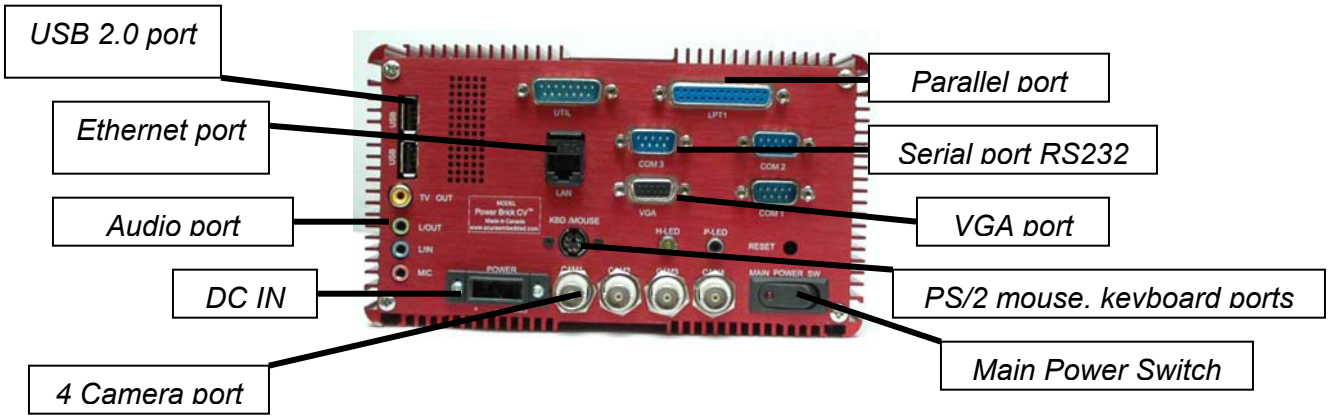

Figure2.2: Back side of PowerBrick-CV.

After connecting all applicable cables it is safe to power-on the system. (Warning: use either DC from the dedicated power supply or AC, never both at the same time!).

2.3. Mounting in your vehicle or final location

This chapter provides you with the information of fixed system mounting. Prior to that, please prepare the installation tools and appropriate items. If you are not clear about the items, contact your dealer for information.

2.4. Mounting tools

For mounting your computer in a vehicle you need the following tools:

- Screw driver
- Drill

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3.1 BIOS Setup

The single board computer uses the Award BIOS (Basic Input/Output System) for the system configuration. The Award BIOS in the single board computer is a customized version of the industrial standard BIOS for IBM PC AT-compatible computers. It supports Intel x86 and compatible CPU architecture based processors and computers. The BIOS provides critical low-level support for the system central processing, memory and I/O sub-systems. The BIOS setup program of the single board computer let the customers modify the basic configuration setting. The settings are stored in a dedicated battery-backed memory, NVRAM, retains the information when the power is turned off. If the battery runs out of the power, then the settings of BIOS will come back to the default setting. The BIOS section of the manual is subject to change without notice and is provided here for reference purpose only. The settings and configurations of the BIOS are current at the time of print, and therefore they may not be exactly the same as that displayed on your screen. To activate CMOS Setup program, press <DEL> key immediately after you turn on the system. The following message "Press DEL to enter SETUP" should appear in the lower left hand corner of your screen. When you enter the CMOS Setup Utility, the Main Menu will be displayed as in Table 3.2. You can use arrow keys to select your function, press <Enter> key to accept selection and enter the sub-menu.

Phoenix – Award BIOS CMOS Setup Utility

>Standard CMOS Features	>Frequency/Voltage Control
>Advanced BIOS Features	Load Fail-Safe Defaults
>Advanced Chipset Features	Load Optimized Defaults
>Integrated Peripherals	Set Supervisor Password
>Power Management Setup	Set User Password
>PnP / PCI Configurations	Save & Exit Setup
>PC Health Status	Exit Without Saving
Esc : Quit	↑↓→← : Select Item
F10 : Save & Exit Setup	

Table 1: Phoenix – Award BIOS CMOS Setup Utility

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3.2. Operating Systems

The PowerBrick-CV will generally be provided with a preinstalled operating system such as Windows XP Professional or Embedded. To restore the operating system, follow the procedure outlined in 3.4. You can also use an external CD-ROM drive to change, reinstall or repair the operating system through a USB 2.0 port.

3.3. Operating System Restore Process

1. Back up your existing drive C:\ files.
2. Restart the computer.
3. Hold down the F8 key to enter Windows Advanced Boot Menu options.
4. Select "Return to OS Choices" and press "Enter".
5. Select "Quick Restore Option", press "Enter" and follow the instructions.
6. After re-boot, click on "Touch screen" in the "Restore drivers and software" window and follow the instructions.

3.4 Windows XP Embedded

If you want to reinstall Windows XP Embedded, boot the computer, place the CD-ROM labeled "Windows XP Embedded Recovery" into the external CD-ROM drive, press RESET and follow the instructions on the screen. We recommend that this be done by experienced computer users only.

3.5 Application Software

You should be able to run all normal/generic application software such as Microsoft Word, Excel, PowerPoint, Adobe software etc. if you have Windows installed. See the relevant manual/help guides for the specific software. Acura is not responsible for failure of any software on your computer but if you have any particular software needs please call Acura Technical Support or e-mail support@acuraembedded.com.

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3.6 Specifications for PowerBrick-CV

Table 3.1: System Features

Processor	Intel Pentium M; supports Hyper Threading Technology; VRM 10.0 standard
Chipset	Intel 855
System FSB	533/400 MHz
Memory	Support Dual-Channel mode, DDR 400/333/266 DIMM up to 1GB
Video	Integrated Intel Extreme Graphics 2, support 64MB DVMT
Audio	Integrated AC '97, Realtek 650
Hard Disk	Dual Independent ATA-100/66/33 support Support up to 4 IDE devices on dual channel
DVR Module	4-port 120 FPS camera input 640 x 480, 640 x 240, 320 x 240 image resolution Standard Motion - JPEG compression Multi-screen monitoring
LAN	Intel Pro 10/100 Mb Fast Ethernet
USB 2.0	Integrated 4 independent OHCI controller supporting USB 1.1 ports; Integrated 1 EHCI controller supporting USB 2.0 ports; Dynamic connection support to USB 2.0 or USB 1.1 devices
Hardware Monitor	System, processor temperature, voltage and fan speed monitor. Auto Thermal fan speed control
Power Management	ACPI 1.0b compliance and OS direct power management, Wake-on event: RTC/USB Keyboard/Modem/LAN/Keyboard/Mouse
Dimensions	7.60“ x 4.35“x 8.15“
Power	8 – 36 Volt

Table 3.2: Input/Output

15 Pin VGA	1
PS/2 / KB & Mouse	1 / 1
Parallel Port	1
Mic-in	1
Line-Out	1
Speaker	1
USB 2.0/ 1.1	3
RJ45 Fast Ethernet	1
Serial Port RS232	2 Option 3
12 V DC Power Jack	1

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3.7 Operation and maintenance

This module requires no routine maintenance. The green LED indicator when lit indicates proper operation and health.

The power supply must be protected by a 15A auto fuse on the input line from the vehicle battery.

3.8 Warning

Before power up the computer, make sure all cables connected to the computer and the monitor.

WARNING
First hookup all cables then turn on computer power switch. Make sure monitor power led on or blinking

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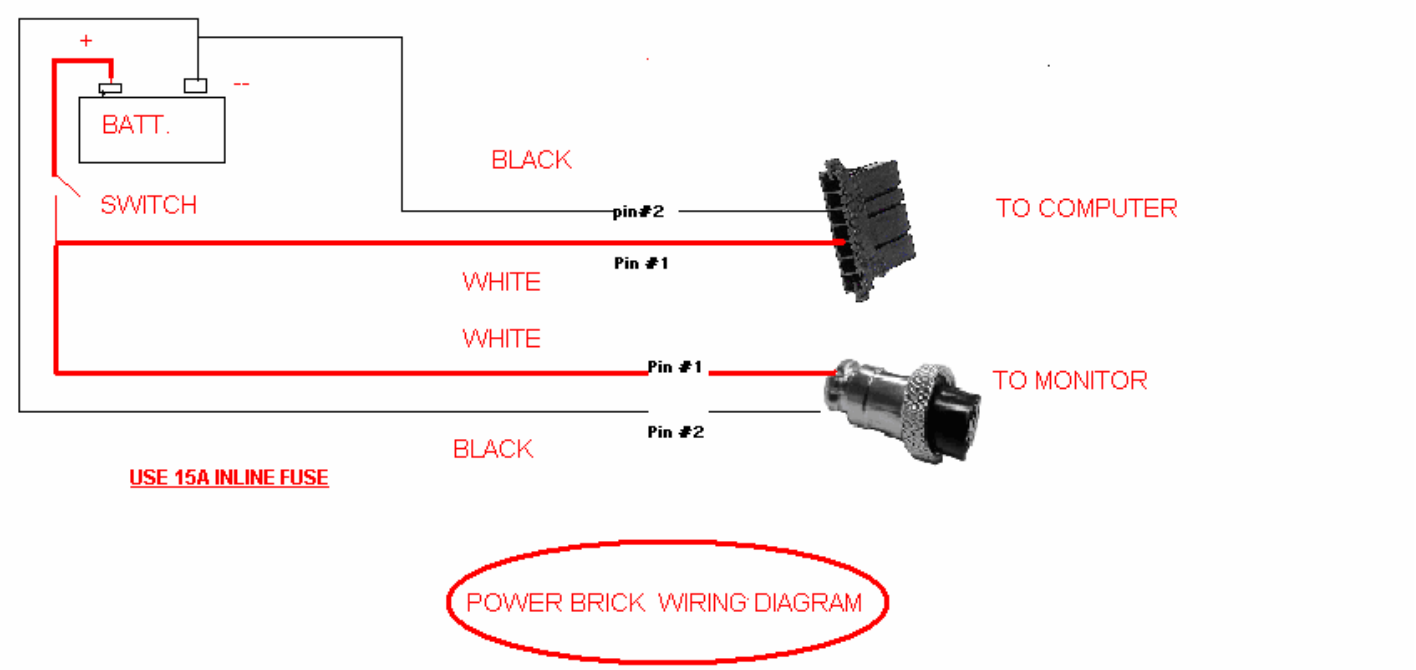
3.9 Power Brick- CV Wiring Diagram



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4.Contact Information

With the unique set of products, Acura Embedded Systems remains committed to its goal of providing trouble-free and customer-friendly service. A special customer service unit has been set up specifically to cater to our esteemed customers' needs.

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